

# 1 VQE results Aer Estimator (No Shots)

(Full Hamiltonian)				Double Well	$\Lambda = 2$	COYBLA Max 10K Iterations			
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	$\Delta_{min}$	VQE median E.	$\Delta_{median}$	Exact	Time
RA r1 rl	1e-01	100/100	30	3.5737e-01	1.3608e-04	3.7056e-01	1.3328e-02	3.5723304703e-01	00h 00m 08s
RA r1 rl	1e-02	100/100	58	3.5724e-01	1.0352e-05	3.5745e-01	2.1514e-04	-	00h 00m 14s
RA r1 rl	1e-03	100/100	121	3.5723e-01	8.2526e-08	3.5724e-01	3.9005e-06	-	00h 00m 34s
RA r1 rl	1e-04	100/100	220	3.5723e-01	1.0164e-09	3.5723e-01	3.9879e-08	-	00h 01m 02s
RA r1 rl	1e-05	100/100	325	3.5723e-01	1.0358e-11	3.5723e-01	4.5279e-10	-	00h 01m 29s
RA r1 rl	1e-06	99/100	568	3.5723e-01	8.5709e-14	3.5723e-01	5.1541e-12	-	00h 03m 33s
RA r1 rl	1e-07	97/100	633	3.5723e-01	1.4433e-15	3.5723e-01	5.973e-14	-	00h 04m 51s
RA r1 rl	1e-08	94/100	922	3.5723e-01	3.3307e-16	3.5723e-01	4.8295e-15	-	00h 07m 25s
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	$\Delta_{min}$	VQE median E.	$\Delta_{median}$	Exact	Time

Table 1